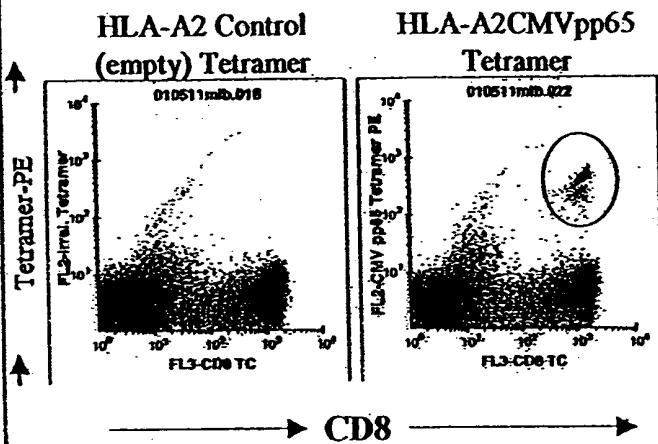


Flow Cytometric Analysis of HLA-A2+ Donor T Cells for HLA-A2 CMVpp65+ T Cells: Day 0 of Culture

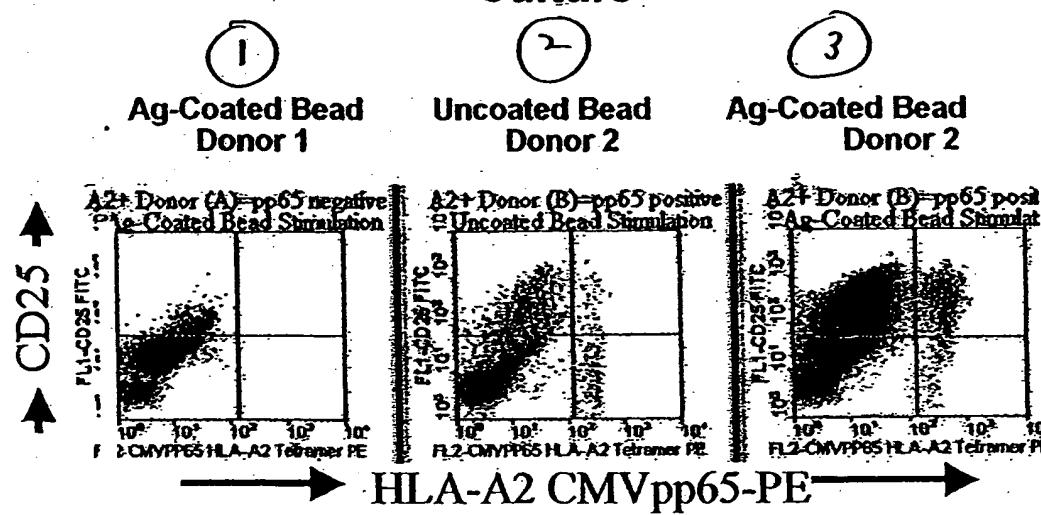


Human PBMC were screened for HLA-A2 positivity. HLA-A2+ donors were screened with control (empty) HLA-A2 tetramers and CMVpp65 loaded tetramers. In the donor shown above, approximately 3% of the CD3+CD8+ express TCR specific for HLA-A2 CMVpp65.

FIG 1

Flow Cytometric Analysis of CD25 Expression on HLA-A2 CMVpp65+ T Cells: Day 10 of

Culture



(Tetramer Staining Gated on CD8+ T Cells)

PBMC were activated with CMV antigen (coated onto paramagnetic beads) and by day 10 of culture, many cell are shown to be CD25 (IL-2R) positive, and all of the HLA-A2 CMVpp65+ T cells are expressing high levels of CD25, indicating activation (right panel). Controls include the same donor cells treated with uncoated (antigen-negative) beads (middle panel), or an HLA-A2+ donor (donor 1) that did not show detectable tetramer+ cells at day 0 and was serologically negative for CMV (left panel). These data indicate that tetramer approaches can be effectively used to track antigen-specific T cells and their relative state of activation.

FIG. 2

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Title: COMPOSITIONS AND METHODS FOR RESTORING IMMUNE REPERTOIRE IN PATIENTS
WITH IMMUNOLOGICAL DEFECTS RELATED TO AUTOIMMUNITY AND ORGAN OR
HEMATOPOIETIC STEM CELL TRANSPLANTATION

Inventors: Ronald Berenson et al.

Docket No.: 980034.422

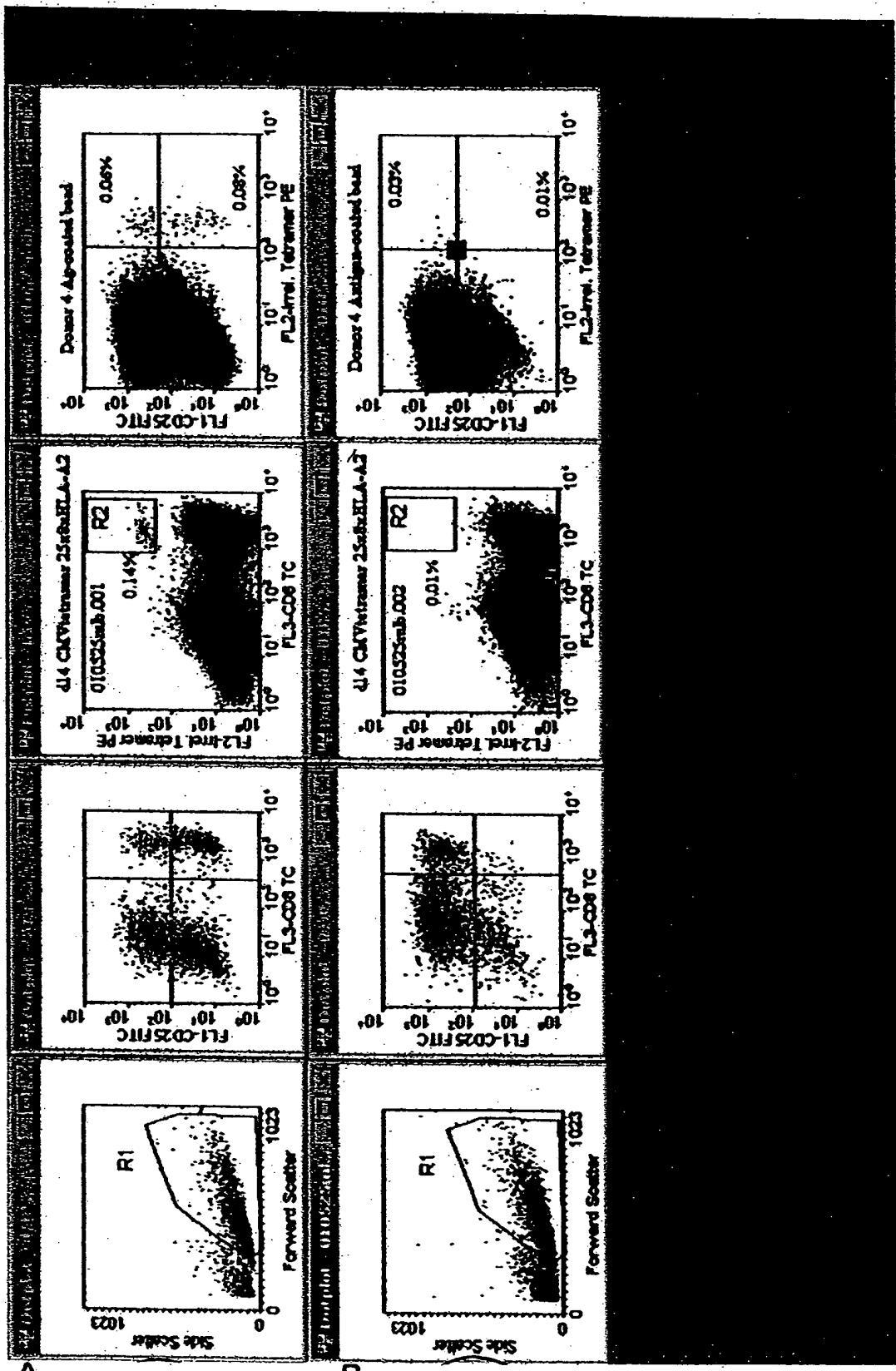


FIG 3

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Mixing Xcellerated T Cells with Autologous B-CLL Leukemic Cells Results in the Rapid Upregulation of Key Immunological Effector Molecules
Day 12 Xcellerated T Cells Co-cultured 24 hours with autologous Leukemic B Cells

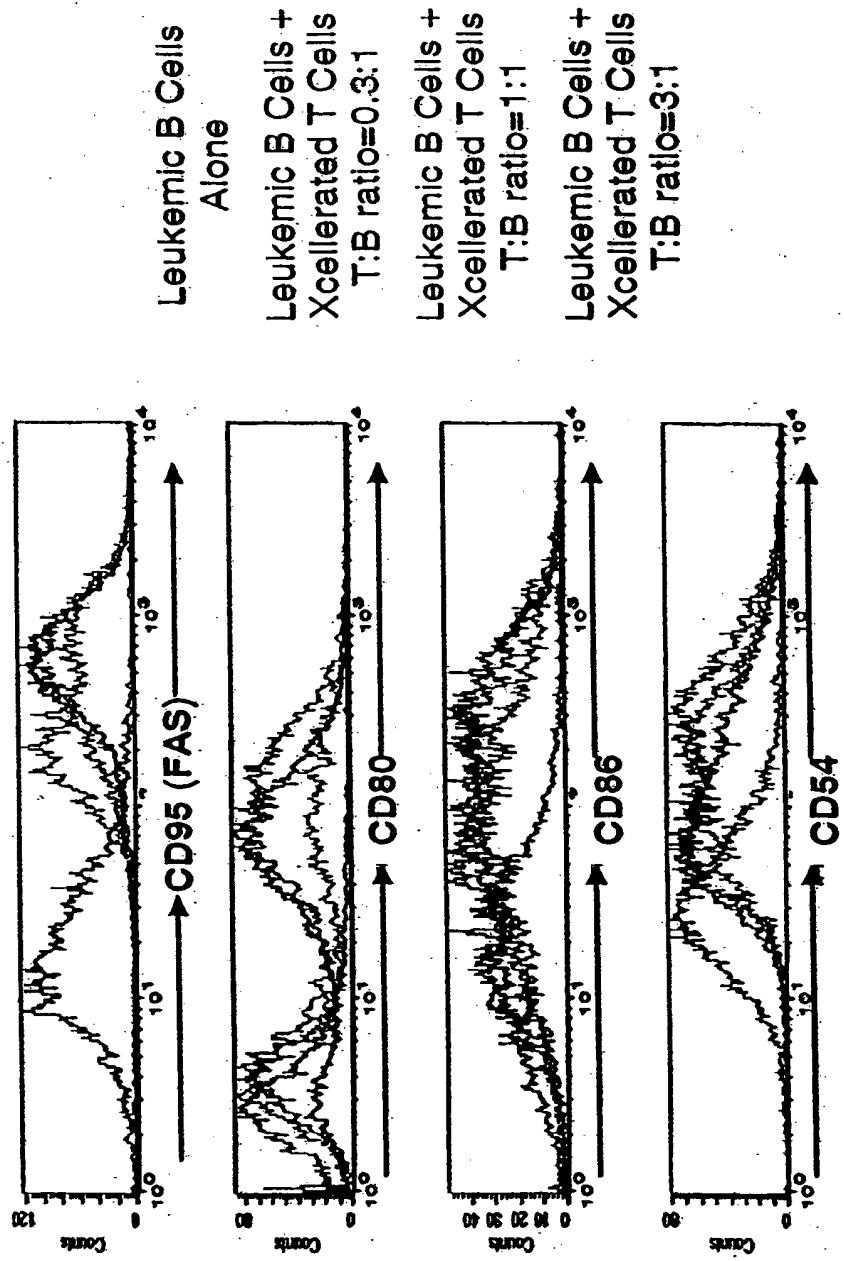


FIG 4

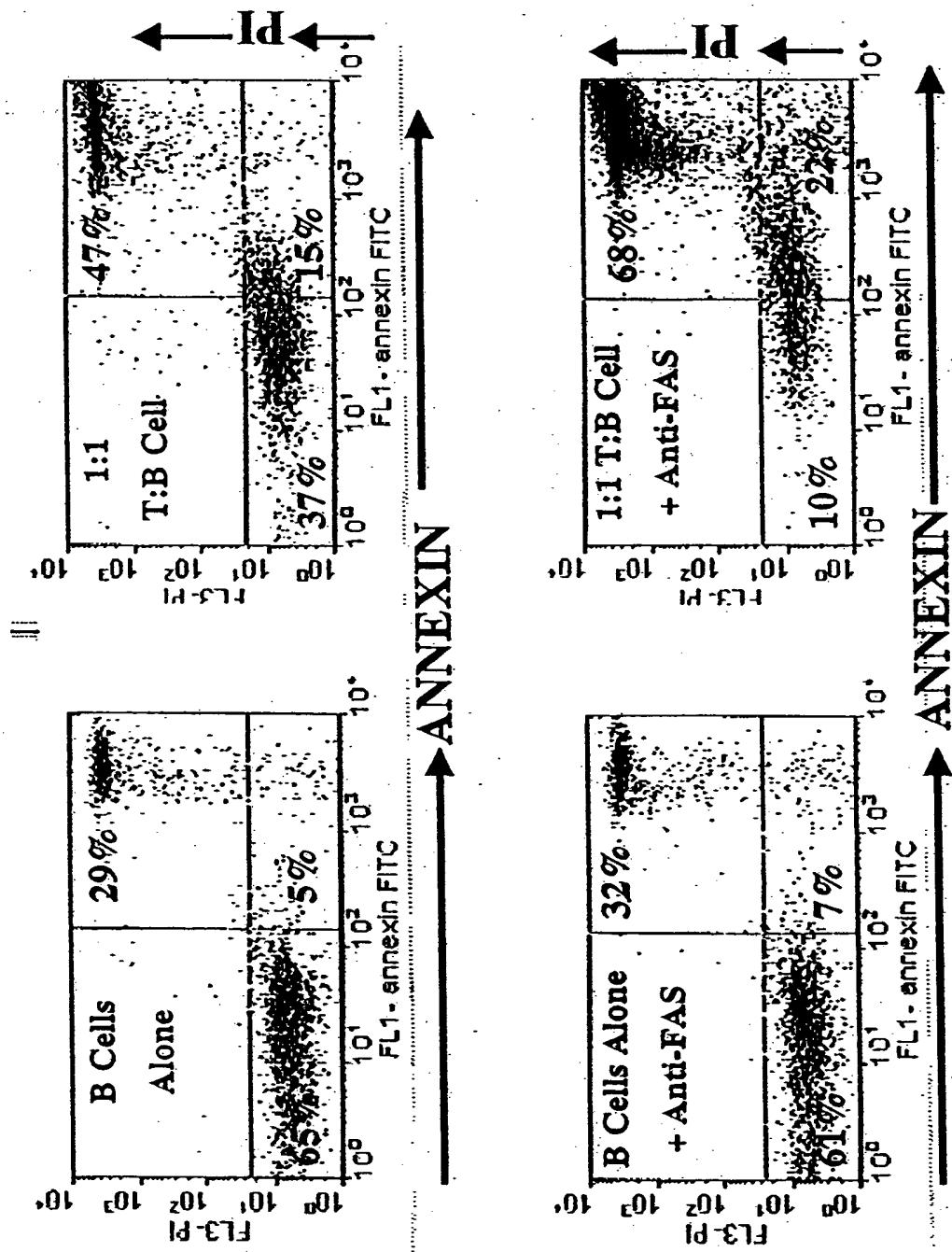


FIG 5

T Cells Grow and Tumor Cells Are Eliminated During the Xcelerate Process

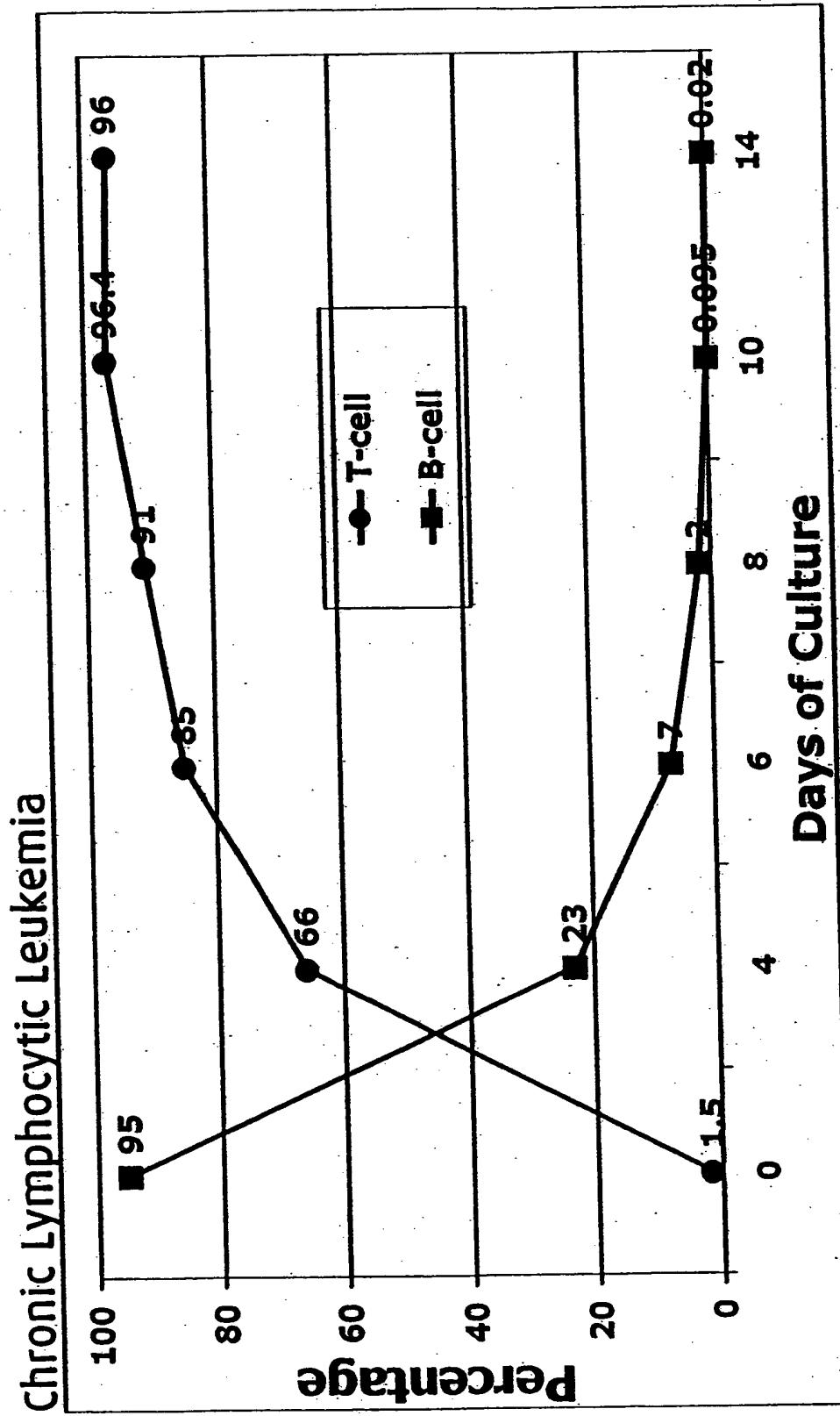


FIG 6

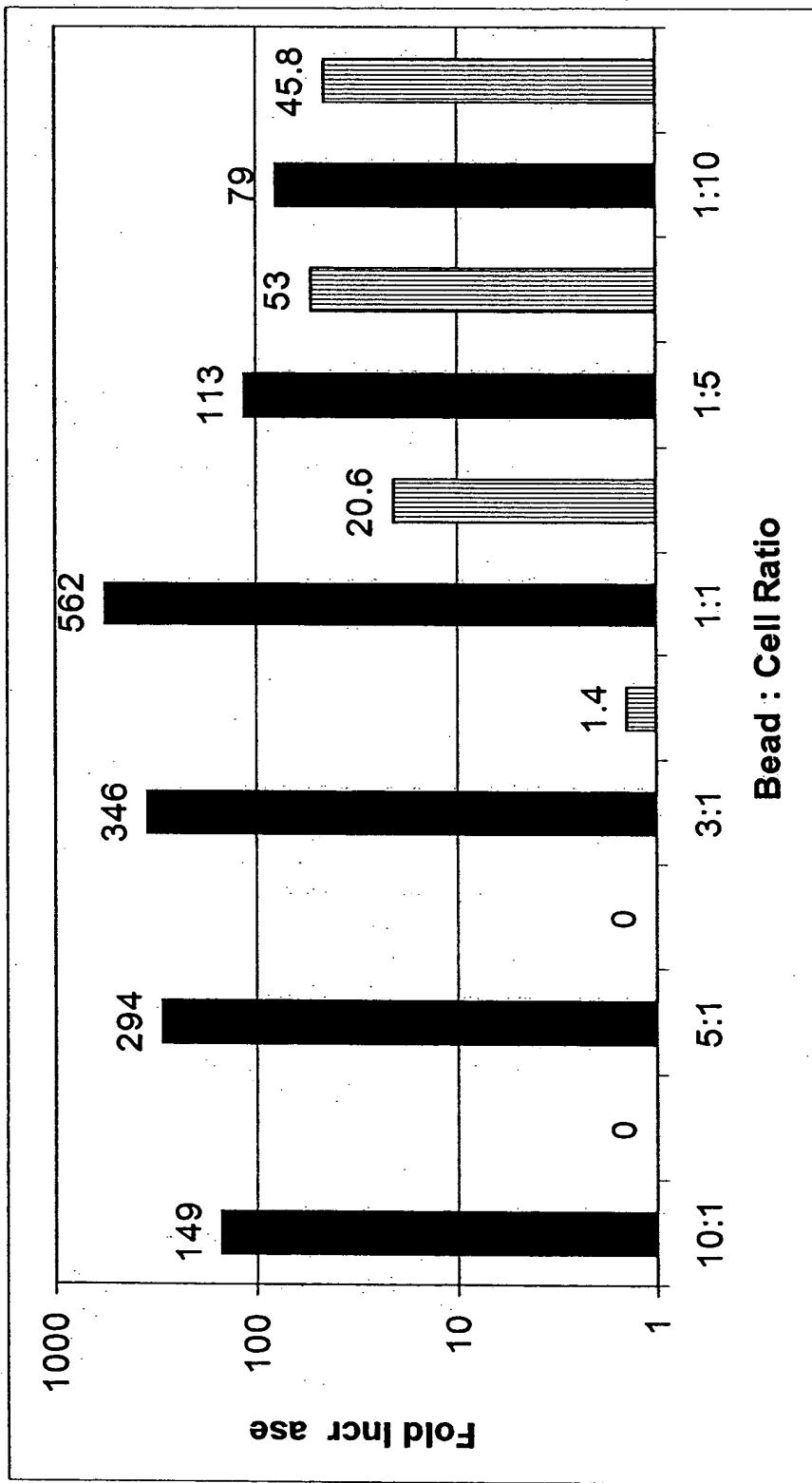


Fig. 7